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EXAMINER	
KAO, WEI PO ERIC	

ART UNIT	PAPER NUMBER
2609	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/739,889	STEPHENS ET AL.	
	Examiner	Art Unit	
	Wei-po Kao	2609	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *17 December 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *17 December 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejection - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1 and 10 rejected under 35 U.S.C. 102(b) as being anticipated by McCrady et al, US Publication No. 20010053699.

For Claims 1 and 10, McCrady et al teach that **a method/system for determining an approximate location of a target node attached to a network** (see Abstract, Figure 1, Paragraph [0029] Line 1-5); **the capability of determining the communication latency from at least one of the reference nodes to the target node** (see Figure 1 Elements 12, 14, 16, 18 and 20, Paragraph [0029] Line 5-16); **the capability of determining the communication latency amongst a plurality of reference nodes** (see Paragraph [0045] Line 13-23); **the capability of determining a region within which the target node is located according to the communication latency between the target node and at least one of the reference nodes** (see Paragraph [0029] Line 20-24).

Claim Rejection - 35 USC § 103

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 2, 6, 11, 15 rejected under 35 U.S.C. 103(a) as being unpatentable over McCrady et al, US Publication No. 20010053699, in view of Ennis, Jr. et al, US Patent No. 5521907.

For Claims 2, 6, 11, 15, McCrady et al teach that **a method/system capable of issuing a send ping signal and issuing a stop signal when it recognizes a ping response between two communication nodes** (see Paragraph [0063-0065], [0069] e.g. [0065] Line 5-12; also a modified ACK message can be adapted to indicate a ping is received; [0069] Line 13-18); **the capability of generating a start time and an end time according to the send ping signal and the stop signals** (see Paragraph [0053] Line 19-29, [0065] Line 1-5); **the capability of generating a latency value according to the difference between the start time and the end time** (see Paragraph [0053] Line 1-12, [0065] Line 1-5).

For Claims 2, 6, 11, 15, McCrady et al do not teach that **the capability of storing a start time and an end time; the capability of storing a source-and-destination index for a signal; the capability of storing a generated latency value according to a source-and-destination index of a signal.**

For Claim 2, 6, 11, 15, Ennis, Jr. et al teach that **the capability of storing a start time and an end time** (see Column 1 Line 61-64 66-67); **the capability of storing a source-and-destination index for a signal** (see Figure 1, Column 2 Line 23-25, Column 1 Line 58-61 64-67, Column 2 Line 3-6 e.g. sites A and B and direction of signal flow imply relationship of source and destination); **the capability of storing a generated latency value according to a source-and-destination index of a signal** (see Column 1 Line 26-28, Column 2 Line 3-6 9-12 e.g. according to Column 2 Line 9-12, in order to calculate an average value, multiple values must have been stored first).

McCrady et al and Ennis, Jr. et al are analogous art because they are from the same art of obtaining communication latency between nodes in a communication network.
At the time of the invention, it would have been obvious to a person ordinary skill in the art to use Ennis, Jr. et al's invention to store and manipulate the calculated communication latency of a ping signal as described in McCrady et al's invention.

The motivation would have been that a ping signal is a signal with minimum size; a ping signal can be interleaved with voice and data signals without taking useful space during a voice or a data communication (see McCrady et al Paragraph [0029] Line 20-24), therefore it should also be handled as any data signal in a communication network without being protocol dependent (see Ennis, Jr. et al Column 1 Line 29-39).
Therefore, it would have been obvious to combine McCrady et al and Ennis, Jr. et al to obtain claims 2, 6, 11, 15.

8. Claims 3, 7, 12, 16 rejected under 35 U.S.C. 103(a) as being unpatentable over McCrady et al, US Publication No. 20010053699, in view of Ennis, Jr. et al, US Patent No. 5521907 and Zisapel et al U.S. Publication 20030195984.

For Claims 3, 7, 12, 16 McCrady et al teach that **a method/system capable of sending a message between two communication nodes** (see Paragraph [0063-0065], [0069] e.g. [0063] Line 15-21); **the capability of generating a elapsing value according to the difference between the initial indicating parameter and the end indicating parameter** (see Paragraph [0053] Line 1-12, [0065] Line 1-5).

For Claims 3, 7, 12, 16 McCrady et al do not teach that **the capability of storing an initial indicating parameter and an end indicating parameter; the capability of storing a source-and-destination index for a message; the capability of storing a generated elapsing value according to a source-and-destination index of a message.**

For Claim 3, 7, 12, 16 Ennis, Jr. et al teach that **the capability of storing an initial indicating parameter and an end indicating parameter** (see Column 1 Line 61-64 66-67); **the capability of storing a source-and-destination index for a message** (see Figure 1, Column 2 Line 23-25, Column 1 Line 58-61 64-67, Column 2 Line 3-6 e.g. sites A and B and direction of signal flow imply relationship of source and destination); **the capability of storing a generated latency value according to a source-and-destination index of a message** (see Column 1 Line 26-28, Column 2 Line 3-6 9-12 e.g.

according to Column 2 Line 9-12, in order to calculate an average value, multiple values must have been stored first).

McCrady et al and Ennis, Jr. et al are analogous art because they are from the same art of obtaining communication latency between nodes in a communication network.

At the time of the invention, it would have been obvious to a person ordinary skill in the art to use Ennis, Jr. et al's invention to store and manipulate the calculated communication elapsing value of a ping message as described in McCrady et al's invention.

The motivation would have been that a ping message is a signal with minimum size; a ping message can be interleaved with voice and data signals without taking useful space during a voice or a data communication (see McCrady et al Paragraph [0029] Line 20-24), therefore it should also be handled as any data signal in a communication network without being protocol dependent (see Ennis, Jr. et al Column 1 Line 29-39).

Therefore, it would have been obvious to combine McCrady et al and Ennis, Jr. et al to obtain the limitations of claims 3, 7, 12, 16.

For Claims 3, 7, 12, 16, McCrady et al and Ennis, Jr. et al teach all the limitations except that **the initial and end indicating parameters are time-to-live (TTL) protocol parameters; the elapsing value is a hop distance.**

For Claims 3, 7, 12, 16, Zisapel et al teach that **the initial and end indicating parameters are time-to-live (TTL) protocol parameters; the elapsing value is a hop distance** (see Paragraph [0021]).

McCrady et al, Ennis, Jr. et al and Zisapel et al are analogous art because they are from the same art of same field of endeavor.

At the time of the invention, it would have been obvious to a person ordinary skill in the art to use TTL value provide in a data packet TTL field to calculate the elapsing distance between two communication nodes.

The motivation would have been that it is common practice that a TTL field already implemented in the existing IP protocol is used to denote the number of hops between two nodes; therefore, it presents an easy solution to find out the hop distance without reinventing a new protocol.

Therefore, it would have been obvious to combine McCrady et al and Ennis, Jr. et al and Zisapel et al to obtain the claims 3, 7, 12, 16.

9. Claim 4 rejected under 35 U.S.C. 103(a) as being unpatentable over McCrady et al, US Publication No. 20010053699, in view of Ennis, Jr. et al, US Patent No. 5521907 and Gregson U.S. Patent No. 7072305.

For Claim 4, McCrady et al teach that **the method capable of determining the communication latency amongst a plurality of reference nodes** (see Paragraph [0045] Line 13-23);

For Claim 4, McCrady et al do not teach that **the capability of generating an average latency value.**

For Claim 4, Ennis, Jr. et al teach that **the capability of generating an average latency value** (see Abstract Line 15-19, Column 1 Line 56-67, Column2 Line 1-19).

McCrady et al and Ennis, Jr. et al are analogous art because they are from the same art of obtaining communication latency between nodes in a communication network.

At the time of the invention, it would have been obvious to a person ordinary skill in the art to use Ennis, Jr. et al's invention to average the calculated communication latency of a signal as described in McCrady et al's invention.

The motivation would have been that an average latency value shows a general idea of how well a portion of network performs, particularly surrounding the node, in terms of latency.

Therefore, it would have been obvious to combine McCrady et al and Ennis, Jr. et al to obtain the limitations of claim 4.

For Claim 4, McCrady et al and Ennis, Jr. et al teach all the limitations except that **the capability of determining latency on a periodic basis.**

For Claim 4, Gregson teaches that **the capability of determining latency on a periodic basis** (see Column 7 Line 4-23).

McCrady et al, Ennis, Jr. et al and Gregson are analogous art because they are from the same field of endeavor.
At the time of the invention, it would have been obvious to a person ordinary skill in the art to use an analyzer unit to measure performance value periodically, such as latency value, of a communication link between two points in a communication network.
The motivation would have been that it is desired for a network service provider to monitor the performance of a link in order to fix any possible mistakes and provide better service (see Gregson Column 2 Line 20-47); further, according to Ennis, Jr. et al invention, averaging periodic latency measurements yields consistent reflection of how well a network performs in general.
Therefore, it would have been obvious to combine McCrady et al, Ennis, Jr. et al and Gregson to obtain the claim 4.

10. Claims 5, 13 and 14 rejected under 35 U.S.C. 103(a) as being unpatentable over McCrady et al, US Publication No. 20010053699, in view of Ennis, Jr. et al, US Patent No. 5521907 and Dorenbosch et al U.S. Patent No. 6169903.

For Claims 5, 13 and 14, McCrady et al teach that **the method capable of determining the communication latency amongst a plurality of reference nodes** (see Paragraph [0045] Line 13-23).

For Claims 5 and 14, McCrady et al do not teach that **a latency storage unit capable of storing one or more values according to indexed values.** For Claim 13, McCrady et al do not teach that **a latency storage unit capable of storing one or more values according to indexed values; the capability of summing a current latency value with the latency values from the latency storage unit; the capability of multiplying an output from the summed latency value by an inverse of the sum of one plus the quantity of the values retrieved from the latency storage unit, wherein the multiplying result is stored in the latency storage unit.**

For Claims 5 and 14, Ennis, Jr. et al teach that **a latency storage unit capable of storing one or more values according to indexed values** (see Column 1 Line 26-28, Column 2 Line 3-6 9-12 e.g. according to Column 2 Line 9-12, in order to calculate an average value, multiple values must have been stored first). For Claim 13, Ennis, Jr. et al teach that **a latency storage unit capable of storing one or more values according to indexed values** (see Column 1 Line 26-28, Column 2 Line 3-6 9-12 e.g. according to Column 2 Line 9-12, in order to calculate an average value, multiple values must have been stored first); **the capability of summing a current latency value with the latency values from the latency storage unit** (see Abstract Line 15-19, Column 1 Line 56-67, Column2 Line 1-19 e.g. in order to calculate an average, all the considered values have to be summed first)**; the capability of multiplying an output from the summed latency value by an inverse of the sum of one plus the quantity of the values retrieved from the latency storage unit, wherein the multiplying result is stored** (see Abstract Line 15-19, Column 1 Line 56-67, Column2 Line 1-19 e.g. in order to calculate an average, all the considered values have to be summed first and then divided by the number of the considered values; the multiplying process is in another words an averaging process).

McCrady et al and Ennis, Jr. et al are analogous art because they are from the same art of obtaining communication latency between nodes in a communication network.
At the time of the invention, it would have been obvious to a person ordinary skill in the art to use Ennis, Jr. et al's invention to store the calculated communication latency of a signal as described in McCrady et al's invention.

The motivation would have been that the calculated latency values could be clearly monitored according to different indexed source-destination pairs.

Therefore, it would have been obvious to combine McCrady et al and Ennis, Jr. et al to obtain the limitations of claims 5, 13 and 14.

For Claims 5 and 14, McCrady et al and Ennis, Jr. et al teach all the limitations except that the **indexed values are according to addresses for reference nodes and time-slots.** For Claim 13, McCrady et al and Ennis, Jr. et al teach all the limitations except that the **indexed values are according to addresses for reference nodes.**

For Claims 5 and 14, Dorenbosch et al teach that **indexed values are according to addresses for reference nodes** (see Figure 1-2, Column 4 Line 43-57 e.g. an address represents a location) **and time-slots** (see Column 4 Line 38-45). For Claim 13, Dorenbosch et al teach that **indexed values are according to addresses for reference nodes** (see Figure 1-2, Column 4 Line 43-57 e.g. an address represents a location).

McCrady et al, Ennis, Jr. et al and Dorenbosch et al are analogous art because they are from the same art of obtaining communication latency between nodes in a communication network.

At the time of the invention, it would have been obvious to a person ordinary skill in the art to use Dorenbosch et al's invention to generate the index value to aid the storage of the calculated communication latency of a signal as described in McCrady et al and Ennis, Jr. et al's inventions.

The motivation would have been that the calculated latency values could be clearly monitored according to different indexed source-destination pairs; in addition, by indexing the latency values in reference to the corresponding node locations and signal transmitting time slots, communication link performance can be better monitored and further provide better quality of serive (see Dorenbosch et Column 1 Line 31-37).

Therefore, it would have been obvious to combine McCrady et al, Ennis, Jr. et al and Dorebosch et al to obtain the claims 5, 13 and 14.

11. Claims 8 and 9 rejected under 35 U.S.C. 103(a) as being unpatentable over McCrady et al, US Publication No. 20010053699, in view of Brain and Harris (see attached documentation).

For Claims 8 and 9, McCrady et al teach that **the latency distance** (see Paragraph [0050-0052]).

For Claims 8 and 9, McCrady et al do not teach that **the capability of approximating a geographic region within which the target node is located.**

For Claims 8 and 9, Brain and Harris teach that **the capability of approximating a geographic region within which the target node is located** (see attached documentation). For Claim 8, Brain and Harris teach that **the step of identifying a first region surrounding a first reference node out to a latency distance to a second reference node** (see the attached supplement documentation from Wikipedia e.g. let points B, P1 and P2 in the figure be a target node and first and second reference nodes respectively, the radius r1, r2 and line d then represent the latency distances from the target node to the first and second reference nodes and between the two reference nodes respectively; assuming that d is ten times the r1, it is obvious to see that the point B (target node) locates within the circular region surrounding the point P1 (first reference node), similarly a region in which a target node locates surrounding the second reference node can be approximated in the same manner). For claim 9, Brian and Harris teach that **the step of identifying a union of the first identified region and a region surrounding the second reference node out to a latency distance to either of the first reference node and a third reference node** (see the attached supplement documentation from Wikipedia e.g. following the explanation of Claim 8, if the distance d and r1 are similar in length, then the two circular regions intercept and form an union region, as shown in the figure, in which a target node may locate; further if a third reference node is considered and similar analysis follows, such that P3 and r3 represent the third reference node and the latency distance to the target node, it is clear to see that multiple union

regions can be formed and the location of a target node can be approximated, namely that when two or more sets of union regions intercept and form a common region, it is the approximated region for the target node).

McCrady et al and Brain and Harris are analogous art because they are from the same art of obtaining communication latency between nodes in a communication network and rely on the communication latency and the derived physical distance to estimate the location of a target object.

At the time of the invention, it would have been obvious to a person ordinary skill in the art to use the method of trilateration to approximate a location of a target node.

The motivation would have been that the underlying principle of trilateration is simple thus the actual deployment of a system handling the process will be simple, in addition, the technique is fairly accurate.

Therefore, it would have been obvious to combine McCrady et al and Brain and Harris to obtain the claims 8 and 9.

12. Claims 17 and 18 rejected under 35 U.S.C. 103(a) as being unpatentable over McCrady et al, US Publication No. 20010053699, in view of Ennis, Jr. et al, US Patent No. 5521907 and Brain and Harris (see attached documentation).

For Claim 17, McCrady et al teach that **a reference node reports its geographic location to a target node** (see Paragraph [0073]).

For Claim 17, McCrady et al do not teach that **the reference-and-target index; the map of the reference-and-target indexes and the corresponding information; the capability of transforming the indexes to the corresponding information.**

For Claim 17, Ennis, Jr. et al teach that **the reference-and-target index** (see Figure 1, Column 2 Line 23-25, Column 1 Line 58-61 64-67, Column 2 Line 3-6 e.g. sites A and B and direction of signal flow imply relationship of source and destination); **the map of the**

reference and target indexes and the corresponding information (see Table 1, Column 3 Line 34-51); **the capability of transforming the indexes to the corresponding information** (see Column 5 Line 21-50).

McCrady et al and Ennis, Jr. et al are analogous art because they are from the same art of obtaining communication latency between nodes in a communication network.
At the time of the invention, it would have been obvious to a person ordinary skill in the art to use Ennis, Jr. et al's invention to store and index the information contained in a signal as described in McCrady et al's invention.
The motivation would have been that the once the collected information such as communication latency or geographic location of the sender of a signal are indexed according to its source and destination, the collected information is easier to be retrieved.
Therefore, it would have been obvious to combine McCrady et al and Ennis, Jr. et al to obtain the limitations of claim 17.

For Claims 17 and 18, McCrady et al and Ennis, Jr. et al teach all the limitations except that **the capability of approximating a geographic region within which the target node is located.**

For Claims 17 and 18, Brain and Harris teach that **the capability of approximating a geographic region within which the target node is located** (see attached documentation). For Claim 17, Brain and Harris teach that **the step of generating a first geographic location signal** (see the attached supplement documentation from Wikipedia e.g. let points B, P1 and P2 in the figure be a target node and first and second reference nodes respectively, the radius r1, r2 and line d then represent the latency distances from the target node to the first and second reference nodes and between the two reference nodes respectively; assuming that d is ten times the r1, it is obvious to see that the point B (target node) locates within the circular region surrounding the point P1 (first reference node), similarly a region in which a target node locates surrounding the second reference node can be approximated in the same manner). For Claim 18, Brain and Harris teach

that **the step of generating a second geographic location signal and a location for the target node** (see the attached supplement documentation from Wikipedia e.g. following the explanation of Claim 17, if the distance d and r1 are similar in length, then the two circular regions intercept and form an union region, as shown in the figure, in which a target node may locate; further if a third reference node is considered and similar analysis follows, such that P3 and r3 represent the third reference node and the latency distance to the target node, it is clear to see that multiple union regions can be formed and the location of a target node can be approximated, namely that when two or more sets of union regions intercept and form a common region, it is the approximated region for the target node).

McCrady et al, Ennis, Jr. et al and Brain and Harris are analogous art because they are from the same art of obtaining communication latency between nodes in a communication network.

At the time of the invention, it would have been obvious to a person ordinary skill in the art to use the method of trilateration to approximate a location of a target node.

The motivation would have been that the underlying principle of trilateration is simple thus the actual deployment of a system handling the process will be simple, in addition, the technique is fairly accurate.

Therefore, it would have been obvious to combine McCrady et al, Ennis, Jr. et al and Brain and Harris to obtain the claims 17 and 18.

Conclusion

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Whitehill, U.S. Patent No. 6768730, and Leonidov et al, U.S. Patent No. 6654463, are cited to show another system and method capable of determining the location of a communication node relying on communication latency information.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wei-po Kao whose telephone number is (571)270-3128.

The examiner can normally be reached on Monday through Friday, 8:30AM to 5:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dong Ton can be reached on 571-272-3171. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

W.K.

DANG T. TON
SUPERVISORY PATENT EXAMINER